

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 2 of 17

Attorney's Docket No.: 16491-025001

RECEIVED
CENTRAL FAX CENTER

SEP 08 2006

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A machine-implemented method comprising:
identifying atrial fibrillation events in physiological data obtained for a living being;
obtaining heart rate data for the living being; and
pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of atrial fibrillation activity, according to the identified atrial fibrillation events, during the defined time period such that heart rate trend is presented with atrial fibrillation burden;

wherein presenting information comprises selectively presenting the information based on a measure of correlation between the identified atrial fibrillation events and human-assessments of at least a portion of the identified atrial fibrillation events.

2. (original) The method of claim 1, wherein pictographically presenting information comprises presenting information regarding both incidence and duration of identified atrial fibrillation events during the defined time period.

3. (original) The method of claim 1, wherein the heart rate data comprise information presented in beats-per-minute.

4. (original) The method of claim 3, wherein the heart rate data comprise information presented in average beats-per-minute and comprises information regarding standard deviation of heart rate.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 3 of 17

Attorney's Docket No.: 16491-025001

5. (original) The method of claim 1, wherein pictographically presenting information comprises presenting heart rate trend juxtaposed with atrial fibrillation burden.

6. (original) The method of claim 1, wherein pictographically presenting information comprises presenting heart rate trend and atrial fibrillation burden on the same graph.

7. (original) The method of claim 1, wherein pictographically presenting information comprises presenting heart rate trend and atrial fibrillation burden on different graphs.

8. (original) The method of claim 1, wherein identifying atrial fibrillation events comprises examining the physiological data in time intervals, and identifying the intervals in which at least one atrial fibrillation event has occurred, and wherein presenting information comprises displaying the identified intervals in alignment with the information regarding the heart rate data on the common time scale.

9. (cancelled)

10. (original) The method of claim 1, further comprising receiving input specifying the defined time period.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 4 of 17

Attorney's Docket No.: 16491-025001

11. (original) A machine-implemented method comprising:
identifying arrhythmia events in physiological data obtained for a living being, the
identified arrhythmia events representing a first group of data;
receiving a second group of data that includes human assessments of at least a portion of
the arrhythmia events;
determining at least one measure of correlation between the first group of data and the
second group of data; and
if the measure of correlation matches or exceeds at least one predetermined value,
selectively presenting, based on this measure of correlation, information regarding at least a
portion of the arrhythmia events.

12. (original) The method of claim 11, wherein identifying arrhythmia events
comprises identifying atrial fibrillation events, and selectively presenting information comprises
presenting information regarding the atrial fibrillation events and heart rate data for the living
being, during a defined time period, together with a common time scale if the measure of
correlation indicates a high positive predictivity for the identification of atrial fibrillation events
during the defined time period.

13. (original) The method of claim 12, wherein receiving human assessments
comprises receiving human assessments of a subset of the atrial fibrillation events, and
identifying atrial fibrillation events comprises:
examining the physiological data in time intervals,
identifying the intervals in which at least one atrial fibrillation event has occurred, and
reporting the identified intervals.

14. (original) The method of claim 13, wherein presenting the information comprises
displaying the identified intervals in alignment with the information regarding the heart rate data
on the common time scale.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 5 of 17

Attorney's Docket No.: 16491-025001

15. (original) The method of claim 13, further comprising identifying a subset of the atrial fibrillation events that are urgent or representative, the identified subset being the human assessed subset.

16. (original) The method of claim 13, wherein determining a measure of correlation between the human assessments and the identified events comprises:

assessing, based on comparing at least time data, a number of the identified intervals that encompass at least a portion of human-assessed arrhythmia events.

17. (original) The method of claim 13, wherein presenting the information regarding the heart rate data comprises displaying a heart rate trend graph including maximum heart rates in time intervals.

18. (original) The method of claim 17, wherein each of the heart rate intervals is thirty minutes, and each of the atrial fibrillation intervals is ten minutes.

19. (original) The method of claim 12, wherein presenting the information comprises displaying the information in two graphs using the common time scale.

20. (original) The method of claim 12, wherein presenting the information comprises displaying the information in a single graph using the common time scale.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 6 of 17

Attorney's Docket No.: 16491-025001

21. (currently amended) An article comprising a machine-readable medium embodying information indicative of instructions that when performed by one or more machines result in operations comprising:

identifying atrial fibrillation events in physiological data obtained for a living being;

obtaining heart rate data for the living being; and

pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of atrial fibrillation activity, according to the identified atrial fibrillation events, during the defined time period such that heart rate trend is presented with atrial fibrillation burden;

wherein presenting information comprises selectively presenting the information based on a measure of correlation between the identified atrial fibrillation events and human-assessments of at least a portion of the identified atrial fibrillation events.

22. (original) The article of claim 21, wherein identifying atrial fibrillation events comprises examining the physiological data in time intervals, and identifying the intervals in which at least one atrial fibrillation event has occurred, and wherein presenting information comprises displaying the identified intervals in alignment with the information regarding the heart rate data on the common time scale.

23. (canceled)

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 7 of 17

Attorney's Docket No.: 16491-025001

24. (original) An article comprising a machine-readable medium embodying information indicative of instructions that when performed by one or more machines result in operations comprising:

identifying arrhythmia events in physiological data obtained for a living being, the identified arrhythmia events representing a first group of data;

receiving a second group of data that includes human assessments of at least a portion of the arrhythmia events;

determining at least one measure of correlation between the first group of data and the second group of data; and

if the measure of correlation matches or exceeds at least one predetermined value, selectively presenting, based on this measure of correlation, information regarding at least a portion of the arrhythmia events.

25. (original) The article of claim 24, wherein identifying arrhythmia events comprises identifying atrial fibrillation events, and selectively presenting information comprises presenting information regarding the atrial fibrillation events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of atrial fibrillation events during the defined time period.

26. (original) The article of claim 25, wherein receiving human assessments comprises receiving human assessments of a subset of the atrial fibrillation events, and identifying atrial fibrillation events comprises:

examining the physiological data in time intervals,

identifying the intervals in which at least one atrial fibrillation event has occurred, and

reporting the identified intervals.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 8 of 17

Attorney's Docket No.: 16491-025001

27. (original) A machine-implemented method comprising:
identifying arrhythmia events in physiological data obtained for a living being, the
identified arrhythmia events representing a first group of data;
receiving a second group of data that includes human assessments of at least a portion of
the arrhythmia events;
determining at least one measure of correlation between the first group of data and the
second group of data; and
if the measure of correlation matches or is less than at least one predetermined value,
selectively presenting, based on this measure of correlation, information regarding at least a
portion of the arrhythmia events.

28. (original) The method of claim 27, wherein identifying arrhythmia events
comprises identifying atrial fibrillation events and selectively presenting information comprises
presenting information regarding the atrial fibrillation events and heart rate data for the living
being, during a defined time period, together with a common time scale if the measure of
correlation indicates a high positive predictivity for the identification of atrial fibrillation events
during the defined time period.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 9 of 17

Attorney's Docket No.: 16491-025001

29. (original) An article comprising a machine-readable medium embodying information indicative of instructions that when performed by one or more machines result in operations comprising:

identifying arrhythmia events in physiological data obtained for a living being, the identified arrhythmia events representing a first group of data;

receiving a second group of data that includes human assessments of at least a portion of the arrhythmia events;

determining at least one measure of correlation between the first group of data and the second group of data;

if the measure of correlation matches or is less than at least one predetermined value, selectively presenting, based on this measure of correlation, information regarding at least a portion of the arrhythmia events.

30. (original) The article of claim 29, wherein identifying arrhythmia events comprises identifying atrial fibrillation events and selectively presenting information comprises presenting information regarding the atrial fibrillation events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of atrial fibrillation events during the defined time period.

31. (original) A system for reporting information related to arrhythmia events comprising:

a monitoring system configured to process and report physiological data for a living being and configured to identify arrhythmia events from the physiological data;

a monitoring station for receiving the physiological data from the monitoring system;

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 10 of 17

Attorney's Docket No.: 16491-025001

a processing system configured to receive arrhythmia information from the monitoring system and configured to receive human-assessed arrhythmia information from the monitoring station wherein the human-assessed arrhythmia information derives from at least a portion of the physiological data and wherein the processing system reports information regarding arrhythmia events if a correlation measure relating to a correlation between the arrhythmia information from the monitoring system and the human-assessed arrhythmia information matches or exceeds a predetermined value.

32. (original) The system of claim 31, wherein the processing system is capable of presenting information regarding atrial fibrillation events and heart rate data for the living being, during a defined time period, together with a common time scale if the correlation measure indicates a high positive predictivity for the identification of atrial fibrillation events during the defined time period.

33. (original) A system for reporting information related to arrhythmia events comprising:

- a monitoring system configured to process and report physiological data, including heart rate data, for a living being and configured to identify arrhythmia events from the physiological data;

- a monitoring station for receiving the physiological data from the monitoring system;

- a processing system configured to receive arrhythmia information from the monitoring system and configured to receive human-assessed arrhythmia information from the monitoring station wherein the human-assessed arrhythmia information derives from at least a portion of the physiological data and wherein the processing system is capable of pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of arrhythmia event activity, according to the identified arrhythmia events, during the defined time period such that heart rate trend is presented with arrhythmia event burden.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 11 of 17

Attorney's Docket No.: 16491-025001

34. (original) The system of claim 33 wherein the monitoring system is capable of examining the physiological data in time intervals and identifying the intervals in which at least one atrial fibrillation event has occurred and wherein the processing system is capable of displaying the identified intervals in alignment with the information regarding the heart rate data on the common time scale.

35. (original) A system for reporting information related to arrhythmia events comprising:

monitoring means for processing and reporting physiological data, including heart rate data, for a living being and for identifying arrhythmia events from the physiological data;

display means for receiving the physiological data from the monitoring means and for displaying the physiological data to a human user;

processing means for receiving arrhythmia information from the monitoring system and for receiving human-assessed arrhythmia information from the display means wherein the human-assessed arrhythmia information derives from at least a portion of the physiological data and wherein the processing means is capable of pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of arrhythmia event activity, according to the identified arrhythmia events, during the defined time period such that heart rate trend is presented with arrhythmia event burden.

36. (original) The system of claim 35 wherein the monitoring means is capable of examining the physiological data in time intervals and identifying the intervals in which at least one atrial fibrillation event has occurred and wherein the processing means is capable of displaying the identified intervals in alignment with the information regarding the heart rate data on the common time scale.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 12 of 17

Attorney's Docket No.: 16491-025001

37. (original) A machine implemented method comprising:

obtaining heart rate data for a living being;

identifying atrial fibrillation events in physiological data obtained for the living being, the identified atrial fibrillation events representing a first group of data, and wherein identifying atrial fibrillation events includes examining the physiological data in time intervals and identifying the intervals in which at least one atrial fibrillation event has occurred;

receiving a second group of data that includes human assessments of at least a portion of the atrial fibrillation events;

determining at least one measure of correlation between the first group of data and the second group of data, wherein determining at least one measure of correlation includes assessing, based on comparing at least time data, a number of the identified intervals that encompass at least a portion of the human-assessed atrial fibrillation events;

if the measure of correlation matches or exceeds at least one predetermined value, pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of atrial fibrillation activity, according to the identified atrial fibrillation events, during the defined time period such that heart rate trend is juxtaposed with atrial fibrillation burden and wherein pictographically presenting includes displaying the identified intervals in alignment with the information regarding the heart rate data on the common time scale.

38. (original) The method of claim 37, wherein pictographically presenting comprises presenting information regarding the atrial fibrillation events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of atrial fibrillation events during the defined time period.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 13 of 17

Attorney's Docket No.: 16491-025001

39. (currently amended) An apparatus comprising:
means for identifying atrial fibrillation events in physiological data obtained for a living being;
means for obtaining heart rate data for the living being; and
means for pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of atrial fibrillation activity, according to the identified atrial fibrillation events, during the defined time period such that heart rate trend is presented with atrial fibrillation burden;
wherein the means for pictographically presenting information comprises means for selectively presenting the information based on a measure of correlation between the identified atrial fibrillation events and human-assessments of at least a portion of the identified atrial fibrillation events.

40. (original) The apparatus of claim 39, wherein the means for pictographically presenting is capable of presenting information regarding the atrial fibrillation events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of atrial fibrillation events during the defined time period.

41. (original) An apparatus comprising:
means for identifying arrhythmia events in physiological data obtained for a living being, the identified arrhythmia events representing a first group of data;
means for receiving a second group of data that includes human assessments of at least a portion of the arrhythmia events;
means for determining at least one measure of correlation between the first group of data and the second group of data;
means for selectively presenting, based on this measure of correlation, information regarding at least a portion of the arrhythmia events if the measure of correlation matches or exceeds at least one predetermined value.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 14 of 17

Attorney's Docket No.: 16491-025001

42. (original) The apparatus of claim 41, wherein the arrhythmia events comprise atrial fibrillation events and wherein the means for selectively presenting is capable of presenting information regarding the atrial fibrillation events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of atrial fibrillation events during the defined time period.

43. (original) A machine implemented method comprising:
obtaining heart rate data for a living being;
identifying arrhythmia events in physiological data obtained for the living being, the identified arrhythmia events representing a first group of data, and wherein identifying arrhythmia events includes examining the physiological data in time intervals and identifying the intervals in which at least one arrhythmia events event has occurred;
receiving a second group of data that includes human assessments of at least a portion of the arrhythmia events;
determining at least one measure of correlation between the first group of data and the second group of data, wherein determining at least one measure of correlation includes assessing, based on comparing at least time data, a number of the identified intervals that encompass at least a portion of the human-assessed arrhythmia events;
if the measure of correlation matches or exceeds at least one predetermined value, pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of arrhythmia events activity, according to the identified arrhythmia events, during the defined time period such that heart rate trend is juxtaposed with arrhythmia event burden and wherein pictographically presenting includes displaying the identified intervals in alignment with the information regarding the heart rate data on the common time scale.

Applicant : Eric N. Prystowsky, M.D., et al.
Serial No. : 10/760,122
Filed : January 16, 2004
Page : 15 of 17

Attorney's Docket No.: 16491-025001

44. (original) The method of claim 43, wherein pictographically presenting comprises presenting information regarding the arrhythmia events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of arrhythmia events during the defined time period.

45. (original) A machine-implemented method comprising:
identifying arrhythmia events in physiological data obtained for a living being, the identified arrhythmia events representing a first group of data;
receiving a second group of data that includes human assessments of at least a portion of the arrhythmia events;
determining at least one measure of correlation between the first group of data and the second group of data; and
if the measure of correlation matches or exceeds at least one predetermined value, selectively presenting, based on this measure of correlation, information regarding at least a portion of the identified arrhythmia events and wherein selectively presenting information comprises presenting information regarding the identified arrhythmia events and heart rate data for the living being, during a defined time period, together with a common time scale if the measure of correlation indicates a high positive predictivity for the identification of arrhythmia events during the defined time period.

46. (original) The method of claim 45, wherein receiving human assessments comprises receiving human assessments of a subset of the identified arrhythmia events, and identifying arrhythmia events comprises:
examining the physiological data in time intervals,
identifying the intervals in which at least one identified arrhythmia event has occurred,
and
reporting the identified intervals.